

# Birds

## Population abundance, breeding success, and diet

### Progress Toward the 2020 Target

There are no targets for this Vital Sign.

### What Are the Indicators?

Indicators were provisionally approved by the Science Panel on June 13, 2013, based on a peer-reviewed report written jointly by the Washington State Department of Fish and Wildlife and the Puget Sound Partnership. The report, titled “Marine and Terrestrial Bird Indicators for Puget Sound,” develops, presents, and uses a transparent process to identify and evaluate potential indicators and ultimately select recommended marine and terrestrial birds.

The indicators serve as measures of population abundance, breeding, and diet.

#### Marine bird indicators:

1. Spring/summer at-sea densities of rhinoceros auklet, pigeon guillemot, and marbled murrelet.
2. Weight and calories of bill-loads of fish fed to rhinoceros auklet chicks and provisioning rates for pigeon guillemot chicks (these indicators are considered as secondary indicators).

3. Burrow occupancy and reproductive success for both the rhinoceros auklet and pigeon guillemot.
4. Winter at-sea abundance of scoters.

**Terrestrial bird indicators:**

1. Breeding abundance trends of resident species associated with interior conifer forests.
2. Breeding abundance trends of resident synanthropic (human-associated) species.

The indicators were chosen because they serve as measures of the size of marine and terrestrial bird populations that reside most, if not all, of the year in Puget Sound. In addition, the measures provide an integrative view of the health of Puget Sound, in contrast to being indicators of something specific like habitat, contaminants, or prey. Breeding success, burrow occupancy, and diet provide information about mechanisms that can help interpret the patterns in population size.

The Washington Department of Fish and Wildlife, the USGS Patuxent Wildlife Research Center, and the Puget Sound Partnership are collaborating to compile and analyze existing data. Initial results are expected in 2014.



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**For more in-depth information,  
please see:**  
[www.psp.wa.gov/vitalsigns/birds.php](http://www.psp.wa.gov/vitalsigns/birds.php)

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